(FILE 'HOME' ENTERED AT 14:22:06 ON 10 DEC 2002)

FILE 'BIOSIS, CAPLUS, SCISEARCH, LIFESCI, EMBASE' ENTERED AT 14:23:40 ON 10 DEC 2002

L1 4160 S BROMELAIN
L2 691 S L1 AND BLOOD
L3 436 DUPLICATE REMOVE L2 (255 DUPLICATES REMOVED)
L4 36 S L2 (A) COAGULATION
L5 27 DUPLICATE REMOVE L4 (9 DUPLICATES REMOVED)

=>

also USPATFULL, PATOSWO, EUROPATFULL & JAPIO

IEN USE OF BROMELAIN PROTEASES FOR INHIBITING BLOOD COAGULATION.
TIDE VERWENDUNG VON BROMELAINPROTEASEN ZUR HEMMUNG DER BLUTGERINNUNG.
TIFR UTILISATION DE BROMELAINE PROTEASES POUR EMPECHER LA COAGULATION DU SANG.
IN MAURER, Rainer, Schopenhauerstrasse 93, D-14129 Berlin, DE;
ECKERT, Klaus, Karower Chaussee 215, D-13125 Berlin, DE;
GRABOWSKA, Edyta, Aristotelessteig 6, D-10318 Berlin, DE;
ESCHMANN, Klaus, Lothringerstrasse 26, D-66271 Kleinblittersdorf, DE
PA URSAPHARM Arzneimittel GmbH & Co. KG, Industriestrasse, D-66129 Saarbruecken, DE
PAN 1383191
AG Becker Kurig Straus, Patentanwaelte Bavariastrasse 7, 80336 Muenchen, DE
AGN 101571
OS BEPB2002058 EP 1096951 B1 0011
SO Wila-EPS-2002-H33-T1
DT Patent
LA Anmeldung in Deutsch; Veroeffentlichung in Deutsch
DS R AT; R BE; R CH; R CY; R DE; R DK; R ES; R FI; R FR; R GB; R GR; R IE; R IT; R LI; R LU; R MC; R NL; R PT; R SE
PIT EPB1 EUROPAEISCHE PATENTSCHRIFT (Internationale Anmeldung)
PI EP 1096951 B1 20020814
OD 20010509
AI EP 1998-942559 19980715
RLI WO 98-EP4406 980715 INTAKZ
WO 0003729 000127 INTPNR
REP WO 98-38291 A
REN TAUSSIG S J ET AL: "Bromelain, the enzyme complex of pineapple (ananas comosus) and its clinical application. An update" JOURNAL OF ETHNOPHARMACOLOGY, Bd. 22, Nr. 2, 1988, Seite 191-203 XP002097864
HARRACH T ET AL: "ISOLATION AND PARTIAL CHARACTERIZATION OF BASIC PROTEINASES FROM STEM BROMELAIN" JOURNAL OF PROTEIN CHEMISTRY, Bd. 14, Nr. 1, Januar 1995, Seiten 41-52, XP002069063 in der Anmeldung erwaehnt
SUNNY M C ET AL: "Effect of fabrication, sterilization and mediators-blood compatibility of polyurethanes" JOURNAL OF BIOMATERIALS APPLICATIONS, Bd. 6, Nr. 3, Januar 1992, Seite 261-273 XP002097865
DATABASE WPI Derwent Publications Ltd., London, GB; AN 89-019644
XP002097957 & JP63295515 A (KAO CORP), Januar 1988

L6 ANSWER 11 OF 45 USPATFULL
AN 2001:218007 USPATFULL
TI Lipase-containing composition and methods of use thereof
IN Margolin, Alex, Newton, MA, United States
Shenoy, Bhami, Woburn, MA, United States
PI US 2001046493 A1 20011129
AI US 2001-791947 A1 20010222 (9)
PRAI US 2000-184517P 20000224 (60)
DT Utility
FS APPLICATION
LREP Ivor R. Elrifi, Ph.D., MINTZ, LEVIN, COHN, FERRIS,, GLOVSKY and POPEO, P.C., One Financial Center, Boston, MA, 02111
CLMN Number of Claims: 47
ECL Exemplary Claim: 1
DRWN 2 Drawing Page(s)
LN.CNT 914
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

6 ANSWER 28 OF 45 USPATFULL
AN 1998:68989 USPATFULL
TI Medical application of bromelain
IN Barnwell, Stephen George, Chester, England
PA Cortecs Limited, Great Britain (non-U.S. corporation)
PI US 5767066 19980616
WO 9522348 19950824
AI US 1996-696918 19960819 (8)
WO 1995-GB352 19950221
19960819 PCT 371 date
19960819 PCT 102(e) date
PRAI GB 1994-3344 19940222
DT Utility
FS Granted
EXNAM Primary Examiner: Jordan, Kimberly
LREP Pennie & Edmonds LLP
CLMN Number of Claims: 5
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 598
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ANSWER 37 OF 45 PATOSWO COPYRIGHT 2002 WILA

AN 1995:68409 PATOSWO ED 19950129 EW 199501 FS OS

TI MEDICAL USE OF STEM **BROMELAIN PROTEASE**.

IN MYNOTT, TRACEY, LEHANNE, GB

PA CORTECS LIMITED, GB

SO PCT-GAZETTE-950105

DT Patent

LA Application in English

DS W @@; W AT; W AU; W BB; W BG; W BR; W BY; W CA; W CH; W CN; W CZ; W DE; W DK; W ES; W FI; W GB; W GE; W HU; W JP; W @@; W KG; W KP; W KR; W KZ; W LK; W LU; W LV; W MD; W MG; W MN; W MW; W NL; W NO; W NZ; W PL; W PT; W RO; W RU; W SD; W SE;
RW AT; RW BE; RW CH; RW DE; RW DK; RW ES; RW FR; RW GB; RW GR; RW IE; RW IT; RW LU; RW MC; RW NL; RW PT; RW SE; RW BF; RW BJ; RW CF; RW CG; RW CI; RW CM; RW GA; RW GN; RW ML; RW MR; RW NE; RW SN; RW TD; RW TG

PIT WOA1 PCT-PUBLICATION

PI WO 9500169 A1 19950105

OD 19950105

AI WO 1994-GB1368 19940624

PRAI GB 1993-13188 19930625

In IDS

5 ANSWER 24 OF 27 CAPLUS COPYRIGHT 2002 ACS
AN 1979:483367 CAPLUS
DN 91:83367
TI **Bromelain**, a thiolprotease from pineapple stem, depletes high molecular weight kininogen by activation of Hageman factor (factor XII)
AU Ohishi, Sachiko; Uchida, Yasuhiro; Ueno, Akinori; Katori, Makoto
CS Sch. Med., Kitasato Univ., Sagamihara, 228, Japan
SO Thrombosis Research (1979), 14(4-5), 665-72
CODEN: THBRAA; ISSN: 0049-3848
DT Journal
LA English

5 ANSWER 22 OF 27 CAPLUS COPYRIGHT 2002 ACS
AN 1983:2358 CAPLUS
DN 98:2358
TI Fluid phase activation of Hageman factor (factor XII) in citrated human plasma by **bromelain**: an application to the indirect enzymic assay for Hageman factor
AU Ohishi, Sachiko
CS Sch. Pharm. Sci., Kitasato Univ., Tokyo, Japan
SO Thrombosis Research (1982), 27(5), 619-23
CODEN: THBRAA; ISSN: 0049-3848
DT Journal
LA English

L6 ANSWER 7 OF 45 USPATFULL
AN 2002:1315 USPATFULL
TI Component of stem bromelain
IN Mynott, Tracey Lehanne, Richmond, UNITED KINGDOM
Engwerda, Christian, Richmond, UNITED KINGDOM
Peek, Keith, Ewloe, UNITED KINGDOM
PA Provalis UK Limited, Flintshire, UNITED KINGDOM (non-U.S. corporation)
PI US 6335427 B1 20020101
AI US 1999-382689 19990825 (9)
RLI Continuation of Ser. No. WO 1998-GB592, filed on 25 Feb 1998
PRAI GB 1997-3827 19970225
GB 1997-3850 19970225
GB 1997-4252 19970228
DT Utility
FS GRANTED
EXNAM Primary Examiner: Stucker, Jeffrey
LREP Sterne, Kessler, Goldstein & Fox, P.L.L.C.
CLMN Number of Claims: 7
ECL Exemplary Claim: 1
DRWN 18 Drawing Figure(s); 18 Drawing Page(s)
LN.CNT 1450

5 ANSWER 1 OF 27 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.
AN 2002137515 EMBASE
TI A follow-up survey of the use of complementary and alternative medicines by surgical patients.
AU Norred C.L.
CS C.L. Norred, Department of Anesthesiology, Univ. of Colorado Hlth. Sci. Ctr., Denver, CO, United States
SO Journal of the American Association of Nurse Anesthetists, (2002) 70/2 (119-125).
Refs: 27
ISSN: 0094-6354 CODEN: JANAAU
CY United States
DT Journal; Article
FS 017 Public Health, Social Medicine and Epidemiology
024 Anesthesiology
037 Drug Literature Index
038 Adverse Reactions Titles
LA English
SL English
AB This study investigated the use of complementary and alternative medicines by surgical patients at the University of Colorado Health Sciences Center, Denver. Elective surgical outpatients were randomly surveyed with anonymous self-report questionnaires during day-surgery admission about alternative medicines taken during the 2 weeks before surgery; 496 of 500 questionnaires were completed and returned. Of the patients, 37% reported 62 types of herbs, 59% reported 14 types of vitamins, 45% reported 36 types of of dietary supplements, and 1% reported taking 5 types of homeopathics. A total of 73.4% of patients took alternative medicines preoperatively (range, 1-44 medicines). After a literature review, the alternative medicines were categorized for potential interactions with anesthetic drugs. Alternative medicines that have inhibitory effects on the **coagulation** cascade were reported by 40% of surgical patients. The following percentages of patients took medicines that affect **blood** pressure, 32%; affect cardiac function, 20%; cause sedation, 17%; or have potential to alter electrolyte levels, 9%. Herbs recognized to interact with pharmaceuticals were consumed by 23% of patients. Further research, education, and improved communication are needed to safely integrate alternative medicines for surgical patients.
CT Medical Descriptors:
*alternative medicine
*surgical patient
questionnaire
herb
follow up
diet supplementation
homeopathy
blood clotting
anesthesia
garlic
Echinacea
cranberry
Arnica montana
Calendula
Glycyrrhiza
Hypericum perforatum
Aloe

ginseng
Ginkgo biloba
celery
bleeding: SI, side effect
human
male
female
major clinical study
clinical trial
randomized controlled trial
controlled study
article
Drug Descriptors:
vitamin: AE, adverse drug reaction
anesthetic agent
electrolyte: EC, endogenous compound
calcium
glucosamine
sulfur
phosphorus
Aconitum extract
thrombocyte activating factor: EC, endogenous compound
prostaglandin synthase: EC, endogenous compound
arachidonic acid: EC, endogenous compound
fibrinogen: EC, endogenous compound
plasminogen: EC, endogenous compound
adenosine diphosphate: EC, endogenous compound
prostaglandin E2: EC, endogenous compound
thromboxane A2: EC, endogenous compound
prostacyclin: EC, endogenous compound
ubidecarenone
kava: IT, drug interaction
valerian: IT, drug interaction
melatonin
4 aminobutyric acid receptor: EC, endogenous compound
bromelain: IT, drug interaction
fish oil
primrose oil
ephedrine: IT, drug interaction
lavender oil
sertraline: AE, adverse drug reaction
herbaceous agent: AE, adverse drug reaction
unindexed drug

RN (calcium) 7440-70-2; (glucosamine) 3416-24-8, 4607-22-1; (sulfur) 13981-57-2, 7704-34-9; (phosphorus) 7723-14-0; (thrombocyte activating factor) 64176-80-3, 65154-06-5; (prostaglandin synthase) 39391-18-9, 59763-19-8, 9055-65-6; (arachidonic acid) 506-32-1, 6610-25-9, 7771-44-0; (fibrinogen) 9001-32-5; (plasminogen) 9001-91-6; (adenosine diphosphate) 20398-34-9, 58-64-0; (prostaglandin E2) 363-24-6; (thromboxane A2) 57576-52-0; (prostacyclin) 35121-78-9, 61849-14-7; (ubidecarenone) 303-98-0; (valerian) 8057-49-6; (melatonin) 73-31-4; (**bromelain**) 37189-34-7, 9001-00-7; (fish oil) 8016-13-5; (primrose oil) 65546-85-2; (ephedrine) 299-42-3, 50-98-6; (lavender oil) 8000-28-0, 8022-15-9; (sertraline) 79617-96-2

CN Zoloft

=>

L5 ANSWER 12 OF 27 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.DUPLICATE 3
AN 1997:519010 BIOSIS
DN PREV199799818213
TI Influence of the therapeutically used enzymes **bromelain**, papain and trypsin on the **blood coagulation** in vitro.
AU Alban, S. (1); Franz, M. E.; Franz, G.
CS (1) Inst. Pharmacy, Univ. Regensburg, D-93040 Regensburg Germany
SO Pharmaceutical and Pharmacological Letters, (1997) Vol. 7, No. 2-3, pp. 59-62.
ISSN: 0939-9488.
DT Article
LA English

L5 ANSWER 15 OF 27 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.DUPLICATE 5

AN 1988:268606 BIOSIS

DN BA86:7850

TI **BROMELAIN** THE ENZYME COMPLEX OF PINEAPPLE ANANAS-COMOSUS AND ITS CLINICAL APPLICATION AN UPDATE.

AU TAUSSIG S J; BATKIN S

CS CANCER RES. CENT. HAWAII, UNIV. HAWAII, 1236 LAUHALA ST., 503, HONOLULU, HAWAII.

SO J ETHNOPHARMACOL, (1988) 22 (2), 191-204.
CODEN: JOETD7. ISSN: 0378-8741.

FS BA; OLD

LA English

AB After a short description of the uses of pineapple as folk medicine by the natives of the tropics, the more important new pharmaceutical applications of **bromelain**, reported between 1975 and 1978 are presented. Although the exact chemical structure of all active components of **bromelain** is not fully determined, this substance has shown distinct pharmacological promise. Its properties include: interference with growth of malignant cells; inhibition of platelet aggregation; fibrinolytic activity; antiinflammatory action; skin debridement properties. These biological functions of **bromelain**, a non-toxic compound have therapeutic values in modulating: tumor growth; **blood coagulation**; inflammatory changes; debridement of third degree burns; enhancement of absorption of drugs. The mechanism of action of **bromelain** affecting these varied biological effects relates in part to its modulation of the arachidonate cascade.

CC Biochemical Studies - Lipids 10066
Pathology, General and Miscellaneous - Inflammation and Inflammatory Disease 12508
Metabolism - Lipids *13006
Blood, Blood-Forming Organs and Body Fluids - General; Methods 15001
Bones, Joints, Fasciae, Connective and Adipose Tissue - General; Methods 18001
Integumentary System - General; Methods 18501
Pharmacology - General *22002
Pharmacology - Blood and Hematopoietic Agents *22008
Pharmacology - Connective Tissue, Bone and Collagen - Acting Drugs *22012
Pharmacology - Integumentary System, Dental and Oral Biology *22020
Neoplasms and Neoplastic Agents - Therapeutic Agents; Therapy *24008
Plant Physiology, Biochemistry and Biophysics - Enzymes 51518
Plant Physiology, Biochemistry and Biophysics - Chemical Constituents *51522
Pharmacognosy and Pharmaceutical Botany *54000

BC Muridae 86375

IT Miscellaneous Descriptors
MOUSE ARACHIDONATE HEMATOLOGIC-DRUG ANTINEOPLASTIC-DRUG ANTIINFLAMMATORY-DRUG DERMATOLOGICAL-DRUG

RN 506-32-1 (ARACHIDONATE)
9001-00-7Q, 37189-34-7Q (**BROMELAIN**)

5 ANSWER 12 OF 27 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.DUPLICATE 3
AN 1997:519010 BIOSIS
DN PREV199799818213
TI Influence of the therapeutically used enzymes **bromelain**, papain and trypsin on the **blood coagulation** in vitro.
AU Alban, S. (1); Franz, M. E.; Franz, G.
CS (1) Inst. Pharmacy, Univ. Regensburg, D-93040 Regensburg Germany
SO Pharmaceutical and Pharmacological Letters, (1997) Vol. 7, No. 2-3, pp. 59-62.
ISSN: 0939-9488.
DT Article
LA English
AB The therapeutically used enzymes **bromelain**, papain, and trypsin are shown to be bioavailable and to exhibit proteolytic activity after oral administration. In order to answer the question if such enzymes interact with endogenous enzymatic processes, their influence on the **blood coagulation** was examined in vitro as a basis for the corresponding in vivo study. For this purpose, the **coagulation** time of supplemented plasma was determined in the global **coagulation** assays. i.e. activated partial thromboplastin time (APTT), prothrombin time, Heptest, and thrombin time. According to their specific nature, the three proteolytic enzymes interact with the **blood coagulation** in a different manner in vitro. However, the effective concentrations are very high and usually not found in vivo after oral administration of these enzymes.
CC Biochemical Studies - Proteins, Peptides and Amino Acids *10064
Enzymes - Physiological Studies *10808
Blood, Blood-Forming Organs and Body Fluids - General; Methods 15001
Blood, Blood-Forming Organs and Body Fluids - Blood and Lymph Studies *15002
Pharmacognosy and Pharmaceutical Botany *54000
BC Hominidae *86215
IT Major Concepts
Biochemistry and Molecular Biophysics; **Blood** and Lymphatics (Transport and Circulation); Enzymology (Biochemistry and Molecular Biophysics); Pharmacognosy (Pharmacology)
IT Chemicals & Biochemicals
BROMELAIN; PAPAIN; TRYPSIN; PROTHROMBIN; THROMBIN
IT Miscellaneous Descriptors
ACTIVATED PARTIAL THROMBOPLASTIN TIME; **BLOOD** AND LYMPHATICS; **BLOOD COAGULATION**; **BROMELAIN**; DIAGNOSTIC METHOD; PAPAIN; PHARMACOGNOSY; PROTHROMBIN TIME; THROMBIN TIME; TRYPSIN
ORGN Super Taxa
Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia
ORGN Organism Name
human (Hominidae)
ORGN Organism Superterms
animals; chordates; humans; mammals; primates; vertebrates
RN 9001-00-7Q (**BROMELAIN**)
37189-34-7Q (**BROMELAIN**)
150977-36-9Q (**BROMELAIN**)
9001-73-4 (PAPAIN)
9002-07-7 (TRYPSIN)
9001-26-7 (PROTHROMBIN)
9002-04-4 (THROMBIN)

=>

5 ANSWER 4 OF 27 CAPLUS COPYRIGHT 2002 ACS
AN 2000:68352 CAPLUS
DN 132:117543
TI Use of **bromelain** proteases for inhibiting **blood coagulation**
IN Maurer, Rainer; Eckert, Klaus; Grabowska, Edyta; Eschmann, Klaus
PA Ursapharm Arzneimittel G.m.b.H., Germany
SO PCT Int. Appl., 24 pp.
CODEN: PIXXD2
DT Patent
LA German
IC ICM A61K038-48
CC 1-8 (Pharmacology)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2000003729	A1	20000127	WO 1998-EP4406	19980715
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2333252	AA	20000127	CA 1998-2333252	19980715
AU 9890661	A1	20000207	AU 1998-90661	19980715
EP 1096951	A1	20010509	EP 1998-942559	19980715
EP 1096951	B1	20020814		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
AT 222121	E	20020815	AT 1998-942559	19980715
PRAI WO 1998-EP4406	A	19980715		

AB **Bromelain** proteases are used for inhibiting the **blood coagulation** system, notably for stimulating plasmin prodn., inhibiting fibrin prodn. and inhibiting the adhesion of human thrombocytes to endothelial cells. The basic proteases, which can be isolated from pure **bromelain**, have proved to be esp. suitable proteases.
ST **bromelain** protease **blood coagulation** inhibition
IT Platelet (**blood**)
(adhesion; **bromelain** proteases for inhibiting **blood coagulation**)
IT Anticoagulants
Fibrinolytics
(**bromelain** proteases for inhibiting **blood coagulation**)
IT Fibrins
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(**bromelain** proteases for inhibiting **blood coagulation**)
IT **Blood** vessel
(endothelium, platelet adhesion; **bromelain** proteases for inhibiting **blood coagulation**)
IT Cell adhesion
(platelet; **bromelain** proteases for inhibiting **blood coagulation**)
IT 158701-41-8 256229-06-8

L5 ANSWER 4 OF 27 CAPLUS COPYRIGHT 2002 ACS

AB **Bromelain** proteases are used for inhibiting the **blood coagulation** system, notably for stimulating plasmin prodn., inhibiting fibrin prodn. and inhibiting the adhesion of human thrombocytes to endothelial cells. The basic proteases, which can be isolated from pure **bromelain**, have proved to be esp. suitable proteases.

L5 ANSWER 18 OF 27 CAPLUS COPYRIGHT 2002 ACS
AN 1984:483329 CAPLUS
DN 101:83329
TI Effect of **bromelain** as an anticoagulant and its significance as an antimetastatic
AU Taussig, S. J.
CS Dep. Food Sci. Human Nutr., Univ. Hawaii, Honolulu, HI, USA
SO Erfahrungsheilkunde (1984), 33(6), 342-8
CODEN: ERFAAK; ISSN: 0014-0082
DT Journal; General Review
LA German

Journal of Ethnopharmacology, 22

blood coagulation

inhibition of: platelet aggregation
fibrinolytic activity

L1 ANSWER 8 OF 33 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1998:312148 CAPLUS
DOCUMENT NUMBER: 129:78309
TITLE: Isolation and characterization of two forms of an acidic bromelain stem proteinase
AUTHOR(S): Harrach, Tibor; **Eckert, Klaus**; Maurer, H. Rainer; Machleidt, Irmgard; Machleidt, Werner; Nuck, Rolf
CORPORATE SOURCE: Institut fur Pharmazie, Abteilung Pharmazeutische Biochemie, Freie Universitat Berlin, Berlin, D-12169, Germany
SOURCE: Journal of Protein Chemistry (**1998**), 17(4), 351-361
CODEN: JPCHD2; ISSN: 0277-8033
PUBLISHER: Plenum Publishing Corp.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Two forms of an acidic bromelain isolated from crude bromelain, an ext. from pineapple stem, were found by a 2-step FPLC purifn. procedure. The basic main components were removed by cation-exchange chromatog. and the breakthrough fraction was further resolved by anion-exchange chromatog. into 15 protein fractions, only 2 of which, called SBA/a and SBA/b, were proteolytically active. These components were characterized by electrospray mass spectroscopy (ESMS), isoelec. focusing, N-terminal amino acid sequence anal., monosaccharide anal., and enzymic parameters. The mol. wts. of SBA/a and SBA/b were detd. by ESMS to be 23,550 and 23,560, resp. The pI values of the 2 bands of SBA/a were 4.8 and 4.9; SBA/b focused as a single band at pI 4.8. Partial N-terminal amino acid sequences (11 residues) were identical to SBA/a and SBA/b and identical with those of stem bromelain, the basic main proteinase of the pineapple stem, and fruit bromelain, the acidic main proteinase of the pineapple fruit. Both components were highly glycosylated; hydrolysis of SBA/a yielded .apprx.2-fold more monosaccharide per protein than SBA/b. The comparison of the catalytic properties of SBA/a with those of SBA/b revealed no relevant differences in the hydrolysis of 3 peptidyl-NH-Mec substrates and in the inhibition profiles using chicken cystatin and E-64, indicating that these components could be considered as 2 forms of a single enzyme. Both forms were barely inhibited by chicken cystatin and slowly inactivated by E-64, and hence are nontypical cysteine proteinases of the papain superfamily.

REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

Maurer R
0 — 12/11/02 CAPLUS AUTHOR'S NAME SEARCH RESULTS

L1 ANSWER 5 OF 33 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1999:290725 CAPLUS
DOCUMENT NUMBER: 131:111159
TITLE: Bromelain proteases reduce human platelet aggregation in vitro, adhesion to bovine endothelial cells and thrombus formation in rat vessels in vivo
AUTHOR(S): Metzig, Carola; Grabowska, Edyta; **Eckert, Klaus**; Rehse, Klaus; Maurer, H. Rainer
CORPORATE SOURCE: Institute of Pharmacy, Free University of Berlin, Berlin, 12169, Germany
SOURCE: In Vivo (**1999**), 13(1), 7-12
CODEN: IVIVE4; ISSN: 0258-851X
PUBLISHER: International Institute of Anticancer Research
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The thiol protease, bromelain, an ext. from pine apple stem, was suggested to have antithrombotic and anticoagulant activities in vivo. We studied the effects of bromelain on cell size distribution of isolated human platelets in vitro by Coulter Counter measurements. Preincubation of platelets with bromelain (10 .mu.g/mL) completely prevented the thrombin (0.2 U/mL) induced platelet aggregation. Papain was less active in preventing platelet aggregation. In vitro, bromelain (0.1 .mu.g/mL) reduced the adhesion of bound, thrombin stimulated, fluorescent labeled platelets to bovine aorta endothelial cells. In addn., preincubation of platelets with bromelain, prior to thrombin activation, reduced the platelet adhesion to the endothelial cells to the low binding value of unstimulated platelets. On the basis of mass concns., the proteases papain and trypsin were as effective as bromelain. Using a laser thrombosis model, the in vivo effects of orally and i.v. applied bromelain on thrombus formation in rat mesenteric vessels were studied. Bromelain, orally applied at 60 mg/kg body wt., inhibited the thrombus formation in a time dependent manner, the max. being after 2 h in 11% of arterioles and 6% of venules. I.v. application at 30 mg/kg was slightly more active in reducing thrombus formation in arterioles (13%) and venules (5%), suggesting that orally applied bromelain is biol. active. These results may help to explain some of the clin. effects obsd. after bromelain treatment in patients with thrombosis and related diseases.
REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT